IN THE CLAIMS:

The following listing of claims is to replace all prior versions of claims presented in the application.

Claims 1 to 13 (Cancelled)

14. (Withdrawn) A method of achieving a contraceptive effect comprising administering an inhibitor directed against a plasma membrane calcium ATPase 4 (PMCA4) isoform that is expressed in a sperm cell, to thereby inhibit sperm mobility such that fertilization of an egg cannot take place.

15. (Withdrawn) The method according to claim 14, wherein the PMCA4 inhibitor is selected from the group consisting of a 5- or 6-carboxyeosindiacetate succinimidyl ester, an eosin, a fluorescein, caloxin 2a1 and spermin.

16. (Withdrawn) The method according to claim 14, wherein administering the PMCA4 inhibitor is achieved orally, parenterally, or as a coated mechanical contraceptive.

17. (Withdrawn) The method according to claim 14, wherein administering the PMCA4 inhibitor is performed as a single contraceptive event or as a repeated contraceptive event.

18. (Withdrawn) The method according to claim 17, wherein the PMCA4 inhibitor is administered to a mammal.

19. (Withdrawn) The method according to claim 18, wherein the mammal is a human being.

20. (Withdrawn) A contraceptive composition comprising the PMCA4 inhibitor of claim 14 and a pharmaceutically acceptable carrier.

21. (Withdrawn) The contraceptive composition according to claim 20, further comprising a conventional contraceptive.

22. (Withdrawn) The contraceptive composition according to claim 21, wherein the conventional contraceptive is a condom.

23. (Currently amended) A method for diagnosing infertility in a human male, comprising:

obtaining a biological sample from the human male, wherein the biological sample contains one or more sperm cells;

analyzing the biological sample, wherein

(i) detecting a mutation or polymorphism in a plasma membrane calcium ATPase 4 (PMCA4) ~~PMCA4~~ gene encoding PMCA4 ~~the PMCA4 isoform of claim 14~~ in the one or more sperm cells, or

(ii) detecting a decrease in the expression of PMCA4 ~~the PMCA4 isoform~~ in the one or more sperm cells relative to a control sample,

is diagnostic of infertility; and

counting a number of non-motile sperm cells relative to motile sperm cells in the biological sample, wherein a number of non-motile sperm cells is greater than 30%.

24. (Currently amended) ~~The method according to claim 23,~~ A method for diagnosing infertility in a human male, comprising:

obtaining a biological sample from the human male, wherein the biological sample contains one or more sperm cells;

analyzing the biological sample, wherein

(i) detecting a mutation or polymorphism in a plasma membrane calcium ATPase 4 (PMCA4) gene encoding PMCA4 in the one or more sperm cells, wherein the mutation or polymorphism is detected in exon 2 or exon 3 of the PMCA4 gene or

(ii) detecting a decrease in the expression of PMCA4 in the one or more sperm cells relative to a control sample,

is diagnostic of infertility.

25. (Currently amended) The method according to claim 23, wherein the detecting the expression of the PMCA4 ~~isoform~~ is performed using immunohistochemistry, sequencing, ELISA, Western Blot, and PMCA activity determination.

26. (Cancelled).

27. (New) The method according to claim 24, wherein the detecting the expression of the PMCA4 is performed using immunohistochemistry, sequencing, ELISA, Western Blot, and PMCA activity determination.

28. (New) The method according to claim 23, wherein detecting the expression of the PMCA4 in the one or more sperm cells is conducted in a sperm cell acrosome and/or tail region.

29. (New) The method according to claim 24, wherein detecting the expression of the PMCA4 in the one or more sperm cells is conducted in a sperm cell acrosome and/or tail region.